Sergei Terterov, MD BBU Pharmaceuticals, LLC



NEW HORIZONS IN NEUROPHARMACOLOGY

BDIRECTGOLD® (BDG)
INNOVATIVE PHARMACEUTICAL PLATFORM

BDG-DOPAMINE®
NEW MEDICINE FOR PARKINSON'S DISEASE

Russian Innovation Week 2012, Palo Alto, CA, USA

Who We Are

- BBU Pharmaceuticals, LLC is a company established by an international team of scientists to commercialize the results of over 40 years of research in the field of neuropharmacology.
- BBU Pharmaceuticals, LLC is a member company of the Skolkovo Biomed cluster.
- The main result of our research is an innovative technology that allows for fast and safe delivery of pharmaceutical substances into the human brain across the Blood-Brain Barrier (BBB).
- Our scientific team consists of leading Russian researchers in the fields of biophysics, physiology, pharmacology and neurology.



Naum Goldstein, PhD BDIRECTGOLD® platform developer; Professor of Biological Sciences



Yury Vladimirov, PhD Academician at the Russian Academy of Medical Sciences; Professor of Biophysics



Andrey Kamensky, PhD Professor of Biological Sciences



Georgy Kovalev, MD, PhD Professor of Medical Neurochemistry



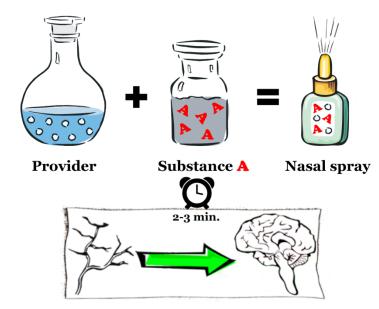
Gagik Avakyan, MD, PhD Professor of Neurology and Neurosurgery



Alexander Terterov
BBU Pharmaceuticals Director
BDIRECTGOLD® project CEO

What We Do

- We developed BDIRECTGOLD® Technology – a patented platform that allows many types of pharmaceutical substances to safely reach the human brain.
- We used this technology to deliver molecules of dopamine into the brain, a result that has never been achieved before. Dopamine is known to not penetrate the BBB. The results of this work and related research were recently published – Goldstein et al, Biochemistry Mosc, 77(5), 2012.
- Using BDIRECTGOLD® Technology, we developed BDG-Dopamine®, a new drug for Parkinson's disease.
- We expect BDG-Dopamine to revolutionize Parkinson's therapy.

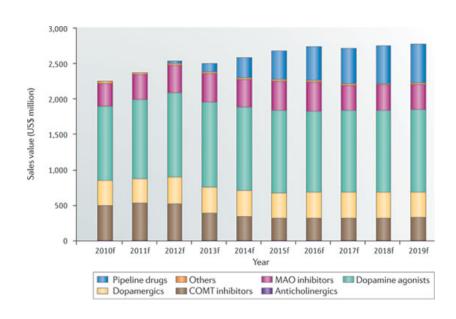


BDIRECTGOLD® technology uses a mediating substance, a so-called provider, to make the Blood-Brain-Barrier transiently permeable. A pharmaceutical mixture of the substance and the provider are administered endonasally as a spray. The provider breaks down in the nasal cavitiy without any harm to the patient.

What We Propose

- We are raising funds to launch preclinical trials of BDG-Dopamine® in Europe. We estimate the total investment needed to complete the pre-clinical trials at USD 7 mln. Skolkovo foundation will provide half of this amount gratis.
- We conservatively expect the new drug to generate USD 100-120 mln annually in European, Japanese and US markets.
- We are also considering ways to commercialize the entire BDIRECTGOLD® platform with 70 drugs selected as compatible substances at the moment.

Parkinson's Disease Drugs Market



Nature Reviews | Drug Discovery

Detailed technology descriptions and financial plans are available upon request

BBU Pharmaceuticals October 26, 2012

Thank You

BBU Pharmaceuticals, LLC BDIRECTGOLD® PROJECT

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BBU Pharmaceuticals October 26, 2012